

A1
COO4

12. The method of claim 11, wherein the pathogen is one of HIV, specific *E. coli* strains, *Salmonella species*, and *Haemophilus species*.

A2

23. The method of claim 3, wherein the fluorescent indicator is at least one of SYBR® Green I; thiazole orange; ethidium bromide; pico green; acridine orange; quinolinium 4-[(3-methyl-2(3H)-benzoxazolylidene) methyl]-1-[3-(trimethylammonio) propyl]-diiodide; quinolinium 4-[(3-methyl-2(3H)-benzothiazolylidene) methyl]-1-[3-(trimethylammonio) propyl]-diiodide; and chromomycin A3.

A3

25. The method of claim 3, wherein the sample is at least one of whole blood, a tissue biopsy, bone marrow, semen, sputum, urine, amniotic fluid, sperm, hair, skin, and cultured cells.

A4

36. The method of claim 28, wherein the presence of a given target polynucleotide indicates the presence of a pathogen, wherein the pathogen is one of a virus, a prokaryote, and a eukaryote.

37. The method of claim 36, wherein the pathogen is one of HIV, specific *E. coli* strains, *Salmonella species*, and *Haemophilus species*.

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48. The method of claim 28, wherein the fluorescent indicator is at least one of SYBR® Green I; thiazole orange; ethidium bromide; pico green; acridine orange; quinolinium 4-[(3-methyl-2(3H)-benzoxazolylidene) methyl]-1-[3-(trimethylammonio) propyl]-diiodide; quinolinium 4-[(3-methyl-2(3H)-benzothiazolylidene) methyl]-1-[3-(trimethylammonio) propyl]-diiodide; and chromomycin A3.

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50. The method of claim 28, wherein the sample is at least one of whole blood, a tissue biopsy, bone marrow, semen, sputum, urine, amniotic fluid, sperm, hair, skin, and cultured cells.

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